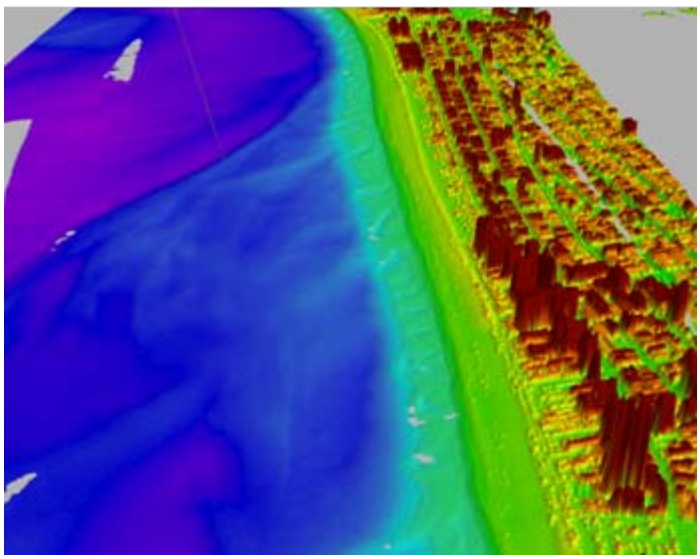
Topographic Change Mapping
at the NOAA Coastal Services Center
www.csc.noaa.gov/crs/tcm

The National Oceanic and Atmospheric Administration (NOAA) Coastal Services Center works with the coastal resource management community to develop data and share technology for topographic issues. High-resolution elevation data help decision makers address a diversity of issues in the coastal zone:

- Understanding long-term erosion trends
- Estimating the effects of beach renourishment and erosion control devices
- Establishment of setback lines
- Habitat mapping
- Post-storm beach elevation mapping, volume change, and shoreline vulnerability



These lidar data represent both topography and bathymetry along a section of shoreline in Miami Beach, Florida. This powerful data set fuses dry land elevations with near shore bathymetry to better document shoreline change and model other physical processes that occur at the land-sea interface.

Elevation data in a variety of formats are available for download for much of the country's coastal beaches and several full county areas. Most raster-based and all point data can be downloaded free of charge.

- **LDART** – Topographic lidar data
- **SDDS** – IfSAR topography data

The Center has developed tools to help incorporate and use lidar data in a geographic information system (GIS) environment:

- **LIDAR Data Handler** – a collection of tools that manipulate and display raster data within ArcGIS.
- **Dune Hazard Assessment Tool** – a GIS-based tool to identify relative risks to properties in Oregon from coastal erosion.

Data: http://www.csc.noaa.gov/crs/tcm/missions
Tools: http://www.csc.noaa.gov/crs/tcm/tools
http://www.csc.noaa.gov/beachmap/html/dune_model.html

NOAA Coastal Services Center
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Elevation Data Available
at the NOAA Coastal Services Center
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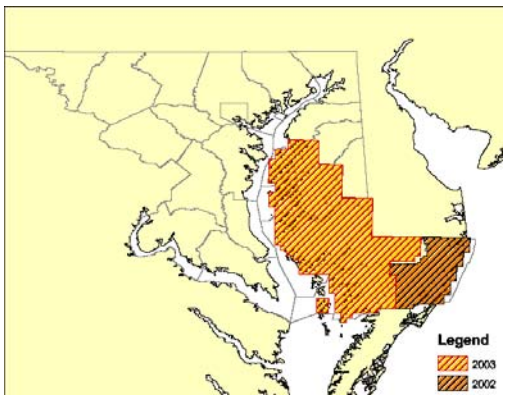
The Coastal Services Center contracts Light Detection and Ranging (LIDAR) and Interferometric Synthetic Aperture Radar (IfSAR) remote sensing technologies for rapid acquisition of topographic data. The data are available to the public via the web.

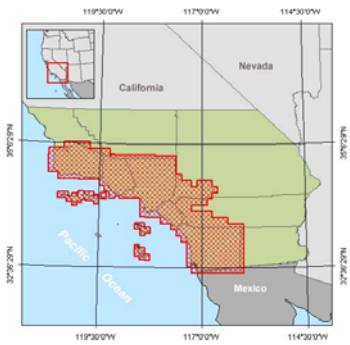
Maryland Lidar

The state of Maryland has been contracting lidar coverage of the state since 2002. This data has 1-meter point spacing and 15 cm vertical accuracy.



Southern California IfSAR

Full county coverage from Santa Barbara to San Diego along the coast. Elevation data and radar imagery is available at 3-meter horizontal ground sample distance. Vertical accuracy is approximately 1-meter RMSE.

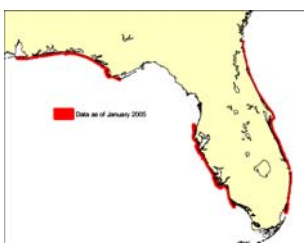


Sandy Beaches

A narrow strip of lidar data has been collected along the sandy beaches of the continental US. Multiple years of data are available for many area. Data extends approximately 500 meters inland from the shoreline. Data typically has 2-meter point spacing and a vertical accuracy of 15-20 cm.

Topographic-Bathymetric Lidar

The Joint Airborne Lidar Bathymetry Technical Center of Expertise and the US Army Corps of Engineers have begun topographic and bathymetric lidar surveys along the continental US shoreline. Data typically extend 500 meters inland and 1 kilometer seaward. Data will be added to the Lidar Data Retrieval Tool online system as it is received from USACE.



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